

Programmatic Biological Assessment for Transformation of the 2nd Brigade 25th Infantry Division (Light) U.S. Army

Island of Hawaii



EXHIBIT 52

April 2003

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

Table 2. Weapons, Ammunition, and Pyrotechnics Currently Used and Potential to Start Wildland Fires, Pohakuloa Training Area, Hawaii.

WEAPON	AMMUNITION	FIRE IGNITION POTENTIAL
Small Arms:		
Rifles	Ball ammunition: .50 caliber	Low
Pistols	5.56 mm, 7.62 mm, 9 mm	
Machine Guns	20 mm target practice training	
Shot Guns	Buckshot	
	Tracer ammunition: 5.56 mm, 7.62 mm, 9 mm	Low
	40 mm Training Practice (TP) and Illumination (ILL)	High
Helicopter Guns	20 mm (ball ammunition)	High ^a
Mortars and Artillery		
	60 mm HE mortar	Low
	60 mm ILL mortar	High
	81 mm HE, TP mortar	Low
	81 mm ILLM, Smoke (SMK), Red Phosphorous (RP), White Phosphorous (WP)	High
	105 mm HE	Low
	105 mm WP, HC, Smoke, ILLM	High
	155 mm HE, Laser Guided (Copperhead)	Low
	155 mm WP, Smoke, ILLM	High
AT-4 Anti-Tank Weapon	84 mm HE Anti-Tank Rocket	Low
Light Anti-Tank Weapon (LAW)	66 mm HE Anti-Tank Rocket	Low
	35 mm Subcaliber Practice Rocket	Low
Folding Fin Rocket	2.75 mm WP	High
Medium Anti-Tank Weapon		
M47 (Dragon)	Tactical Missile	High
Javelin	Inert Missile	Low
Hellfire Missile	Inert Missile	Low
Shoulder-Launched Multipurpose Assault Weapon (SMAW) - Marines	Launcher Assault Rockets: SMAW Practice	Low
	SMAW Common Practice	
Tube Launched, Optically	Inert	Low

Table 2. Weapons, Ammunition, and Pyrotechnics Currently Used and Potential to Start Wildland Fires, Pohakuloa Training Area, Hawaii.

WEAPON	AMMUNITION	FIRE IGNITION POTENTIAL
Tracked, Wire Command Link (TOW)	HE	High
Stinger	Shoulder-fired Heat Seeking Surface-to-Air Missile	Low
Ballistic Aerial Target System (BATS)	Target rocket	Low
Bombs	MK-10, MK-76 (25 lbs. Practice) MK-82 (500 lbs.), MK-83 (1,000 lbs.), MK-84 (2,000 lbs.)	High
Grenades (Hand and Rocket)	M67 Fragmentation, Practice WP, Smoke	Low High
Mines	Claymore Anti-personnel, Land Mines (Anti-tank Mines)	Low Low
Demolition	TNT, C-4 Block, Detonation Cords Bangalore Torpedo	Low Low
Flare	White Parachute	High

^a Helicopter guns were categorized as a "Low" in the ignition system developed for and used in the Biological Assessment for Programmatic Section 7 Consultation on Routine Military Training at Makua Military Reservation by USARHAW Range Division, Wildland Fire, and Environmental Division Staff. At PTA, these munitions are categorized as "High" because it fires in areas with a high vegetative fuel load. Shell casings are known to start fires.

High explosive rounds receive a low potential to start fires because on explosion the immediate area of a round is starved of oxygen, resulting in a low potential for ignition. Smoke and illumination rounds have a high potential because there is an exposed flame associated. White phosphorus rounds are highly flammable.

Source: PTA Legacy Programmatic BA (PTA Legacy BA 2002).

2.1.4 Ranges, Training Areas, and Impact Area¹²

PTA has 22 live-fire and 4 non live-fire ranges, 23 training areas, a centrally located impact area, one airfield, and 113 surveyed field artillery and mortar firing points (Figure 3, Table 3). The 27 ranges and artillery firing points are in training areas surrounding the impact area and oriented so 28 munitions are fired into the impact area. There are two exceptions; two rifle ranges currently are oriented to the east along Redleg Trail. The 22 live-fire training ranges are located in the northern and eastern parts of the installation. There are four airborne drop zones (two on PTA, two on leased lands) capable of personnel and equipment airborne operations. Additionally, there

¹² Adapted from 25th ID(L) and USARHAW (2001).

Table 6. Ammunition Usage by Live-Fire Range for Current Training, Transformed Training, and Net Difference (Rounds), Stryker Brigade Combat Team, Island of Hawaii, Hawaii.

RANGE & Ammunition	Projected Un-Transformed (Current)					Projected Transformed					Net Difference	
	Other		2 Legacy Brigades		USMC	Tracer Rounds		Other USMC		Tracer Rounds	All Rounds	
	25mm ID(I)	25mm ID(I)	25mm ID(I)	25mm ID(I)	1 SBCI	25mm ID(I)	1 SBCI	25mm ID(I)	1 SBCI	Tracer Rounds	Tracer Rounds	Tracer Rounds
RANGE 1 Squad Assault												
5.56mm	296,904	14,435	55,491	0	366,830	22,010	292,249	14,435	55,491	0	362,175	21,731
7.62mm	37,968	0	15,355	0	53,323	5,332	45,572	0	15,355	0	60,927	6,093
40mm M203 TP	0	0	513	0	513	0	0	0	513	0	513	0
40mm M203 Para	0	0	8	0	8	0	1,155	0	8	0	1,163	1,155
Pyro-Smoke	372	4	14	0	390	0	569	4	14	0	587	197
5.56mm Blank	179,556	0	12,460	0	192,016	0	262,814	0	12,460	0	275,274	83,258
7.62mm Blank	17,762	0	600	0	18,362	0	36,784	0	600	0	37,384	19,022
Pyro	2,635	0	0	0	2,635	0	8,217	0	0	0	8,217	5,582
RANGE 2 Combat Pistol Qualification Course												
9mm	3,408	0	2,610	2,950	8,968	0	4,304	0	2,610	2,950	9,864	896
RANGE 3 Rifle Grenade Launcher Range												
40mm HEDP	2,088	185	568	48	2,889	0	2,534	185	568	48	3,335	446
40mm M203 TP	0	1,474	1,653	250	3,377	0	1,474	1,653	250	0	3,377	0
40mm Para Flare	0	0	71	0	71	0	0	0	71	0	71	0
40mm MK19 TP	0	0	300	0	300	0	0	0	300	0	300	0
RANGE 4 Rifle Range												
5.56mm	96,460	20,200	36,800	12,500	165,960	9,958	289,940	20,200	36,800	12,500	359,440	21,566
RANGE 5 Hand Grenade Familiarization Range												
Practice Grenade	823	0	487	0	1,310	0	0	0	487	0	487	-823
Frag Grenade	206	918	769	0	1,893	0	918	769	0	1,687	0	-206

Table 6. Ammunition Usage by Live-Fire Range for Current Training, Transformed Training, and Net Difference (Rounds), Stryker Brigade Combat Team, Island of Hawaii, Hawaii.

RANGE & Ammunition	Projected Un-Transformed (Current)						Projected Transformed						Net Difference
	Other			Other			1 Legacy Brigade & 1SBCT			Other			
	2 Legacy Brigades	25mm ID(L)	USMC	Units	Total	Tracer Rounds	1SBCT	USMC	Units	Total	Tracer Rounds	All Rounds	Tracer Rounds
RANGE 5A Hand Grenade Confidence Course													
Frag Grenade	0	0	62	0	62		0	0	0	62	0	62	0
RANGE 6 Hand Grenade Qualification Course													
Practice Grenade	823	1,438	77	164	2,502		0	0	1,438	77	164	1,679	-823
RANGE 7 Small Arms Zero Range													
5.56mm	144,691	14,000	4,100	0	162,791	9,767	289,940	14,000	4,100	0	308,040	18,482	145,249
RANGE 8 Sniper													
5.56mm	0	0	250	0	250		0	0	0	250	0	250	0
7.62mm	1,917	0	1,080	0	2,997		6,071	0	1,080	0	7,151		4,154
.50 Cal.	0	0	200	0	200		0	0	0	200	0	200	0
5.56mm Blank	0	0	420	0	420		0	0	0	420	0	420	0
7.62mm Blank	162	0	0	0	162		103	0	0	0	103		-59
RANGE 8, 8A, 8B Multi-Purpose Range													
5.56mm	22,099	20,200	4,500	8,700	55,499		3,330						
7.62mm	3,797	39,200	28,700	1,300	72,997	7,300							
.50 Cal.	2,282	15,700	200	0	18,182		2,546						
40mm MK19	38,102	5,275	0	0	43,377								
TOW Missile	0	15	3	0	18								
105mm HE	0	531	0	0	531								
9mm Tracer	6,461	0	0	0	6,461	6,461							
												Range facility would go away with transformation	
												Range replaced by new anti-armor range	

Table 6. Ammunition Usage by Live-Fire Range for Current Training, Transformed Training, and Net Difference (Rounds), Stryker Brigade Combat Team, Island of Hawaii, Hawaii.

RANGE & Ammunition	Projected Un-Transformed (Current)						Projected Transformed						Net Difference	
	2 Legacy Brigades	Other 25" ID(I)	Other Units	USMC	Tracer Rounds	Total	1 Legacy Brigade & 25" 1SBCT	Other 25" DD(I)	USMC	Tracer Rounds	Total	All Rounds	Tracer Rounds	
RANGE 9 Demolition Range														
7.62mm	0	0	100	0	100	10	0	0	100	0	100	10	0	0
Claymore Mine	0	125	0	0	125	0	0	125	0	0	125	0	0	0
Demolitions	7,416	0	363	129	7,908	1	9,166	0	363	129	9,658	1,750	1,750	0
Bangalore	0	0	1	0	1	0	0	0	1	0	1	0	0	0
RANGE 10 Platoon Assault Course														
5.56mm	296,904	13,200	51,795	8,159	370,058	22,204	304,993	13,200	51,795	8,159	378,147	22,689	8,089	485
7.62mm	0	3,900	38,646	8,140	50,686	5,069	37,977	3,900	38,646	8,140	88,663	8,866	37,977	3,798
9mm Tracer	0	12	64	0	76	76	0	12	64	0	76	76	0	0
40mm M203 TP	0	400	140	100	640	0	400	140	100	640	0	640	0	0
Practice Grenade	0	0	15	0	15	0	0	0	15	0	15	0	15	0
Frag Grenade	0	12	230	0	242	0	0	12	230	0	242	0	0	0
Pyro	2,635	0	0	45	2,680	0	8,288	0	0	45	8,333	5,653	5,653	0
Pyro-Smoke	372	0	18	0	390	0	569	0	18	0	587	197	197	0
5.56mm Blank	179,556	0	14,900	0	194,456	0	108,333	0	14,900	0	123,233	-71,223	-71,223	0
7.62mm Blank	17,762	0	400	0	18,162	0	36,784	0	400	0	37,184	19,022	19,022	0
RANGE 11 Multi-Purpose Anti-Armor Range														
5.56mm	0	0	4,000	0	4,000	0	4,000	240	240	0	Range facility would go away with transformation			
7.62mm	0	36,850	2,000	0	38,850	0	38,850	3,885	3,885	0	Range replaced by new battle area course			
9mm Tracer	0	400	0	0	400	0	84,984	11,898	84,984	11,898	0			
.50 Cal.	0	84,984	0	0	84,984	0	84,984	11,898	84,984	11,898	0			
AT-4 Rocket	324	39	7	0	370	0	370	0	370	0	370	0	0	0
2.75" Rocket	0	2,640	0	0	2,640	0	2,640	0	2,640	0	2,640	0	0	0

Table 6. Ammunition Usage by Live-Fire Range for Current Training, Transformed Training, and Net Difference (Rounds), Stryker Brigade Combat Team, Island of Hawaii, Hawaii.

RANGE & Ammunition	Projected Un-Transformed (Current)					Projected Transformed					Net Difference	
	2 Legacy Brigades	Other 25 th ID(I)	USMC	Other Units	Total	Tracer Rounds	1 Legacy Brigade & 25 th ID(I)	Other USMC	Other Units	Total	Tracer Rounds	
Dragon Missile	0	0	11	0	11							
TOW Missile	0	6	0	0	6							
Hellfire Missile	0	86	0	0	86							
105mm HE	0	403	0	0	403							
RANGE 12 Multi-Purpose Machine Gun Range												
5.56mm	22,099	200	1,100	0	23,399	1,404						
7.62mm	3,797	7,000	4,000	0	14,797	1,480						
.50 Cal.	2,282	3,602	24,555	0	30,439	4,262						
Stinger Missile	0	3	0	0	3							
RANGE 13 Direct Fire Range												
7.62mm	0	0	0	500	500	50	0	0	0	500	500	0
.50 Cal.	0	0	5,450	5,000	10,450	1,463	0	0	0	5,450	5,000	1,463
25mm TP	0	0	1,500	0	1,500		0	0	0	1,500	0	1,500
40mm M203 TP	0	300	0	0	300		0	300	0	0	300	0
40mm M203 HE/DP	0	0	11,886	1,820	13,706		0	0	0	11,886	1,820	13,706
40mm MK19 TP	0	0	4,938	0	4,938		0	0	0	4,938	0	4,938
155mm HE	298	30	29	0	357		298	30	29	0	357	0
RANGE 14 CALFEX												
5.56mm	296,904	0	4,000	0	300,904	18,054	0	0	0	4,000	0	4,000
60mm HE	0	0	60	0	60		0	0	0	60	0	0
7.62mm Blank	17,762	0	2,000	0	19,762		36,681	0	0	2,000	0	38,681
5.56mm Blank	179,556	0	0	0	179,556		262,814	0	0	0	262,814	83,258
Pyro-Smoke	372	0	0	0	372		569	0	0	0	569	197

Table 6. Ammunition Usage by Live-Fire Range for Current Training, Transformed Training, and Net Difference (Rounds), Stryker Brigade Combat Team, Island of Hawaii, Hawaii.

RANGE & Ammunition	Projected Un-Transformed (Current)						Projected Transformed						Net Difference	
	1 Legacy Brigade & 25th ID(I)			1 Legacy Brigade & 25th ID(I)			1 Legacy Brigade & 25th ID(I)			1 Legacy Brigade & 25th ID(I)				
	Other 25th ID(I)	Other Units	Total	Tracer Rounds	Other Units	Total	Tracer Rounds	Other Units	Total	Tracer Rounds	All Rounds			
Pyro	2,635	0	0	0	2,635	0	8,292	0	0	0	8,292	0	5,657	
RANGE 15 Helicopter Gunnery Range														
.50 Cal.	9,130	18,730	0	0	27,860	3,900	35,775	18,730	0	0	54,505	7,631	26,645	
2.75" Rocket Hellfire Missile	0	749	0	0	749	0	0	749	0	0	749	0	0	
RANGE 20 Aviation Gunnery														
5.56mm	44,198	0	1,300	0	45,498	2,730	21,579	0	1,300	0	22,879	1,373	-22,620	
7.62mm	7,594	4,000	0	0	11,594	1,159	15,191	4,000	0	0	19,191	1,919	-7,597	
.50 Cal.	9,130	0	5,597	0	14,727	2,062	35,775	0	5,597	0	41,372	5,792	26,645	
Dragon Missile	0	0	2	0	2	0	0	0	2	0	2	0	0	
TOW Missile	0	0	7	0	7	0	0	0	7	0	7	0	0	
Pyro	0	0	15	0	15	0	0	0	15	0	15	0	0	
Anti-Armor Live-Fire and Tracking Range (AALFTR)														
TOW					21	0	0	0	0	21	0	na	na	
JAVELIN				Range does not currently exist	23	0	0	0	0	23	0	na	na	
Battle Area Course (BAX)														
5.56mm				Range does not currently exist	1,601K	0	0	0	0	1,601K	96,060	na	na	
7.62mm					201,627	0	0	0	0	201,627	20,163	na	na	
9mm Tracer					19,284	0	0	0	0	19,284	19,284	na	na	
40mm M203 TP					15,367	0	0	0	0	15,367	na	na	na	
40mm Wh Star					2,888	0	0	0	0	2,888	na	na	na	
40mm MK19 TP					12,972	0	0	0	0	12,972	na	na	na	
Practice Grenade					10,657	0	0	0	0	10,657	na	na	na	

Table 6. Ammunition Usage by Live-Fire Range for Current Training, Transformed Training, and Net Difference (Rounds), Stryker Brigade Combat Team, Island of Hawaii, Hawaii.

RANGE & AMMUNITION	Projected Un-Transformed (Current)					Projected Transformed					Net Difference	
	2 Legacy Brigades		Other Units		Total	Tracer Rounds		1.1 Legacy Brigade & 25% Other		Other units	Total	Tracer Rounds
	25% ID(B)	USMC	USMC	Total	1	SBCT	ID(L)	USMC	ID(L)	USMC	Total	Tracer Rounds
.50 Caliber												
105mm TPDS								143,099	0	0	143,099	20,034
105mm TP-T								972	0	0	972	na
105mm HEP-TP-T								1,944	0	0	1,944	na
105mm Canister								2,592	0	0	2,592	na
Volcano								972	0	0	972	na
Claymore Mine								6	0	0	6	na
Mortar Firing Points												
60mm HE	2,884	0	1,032	200	4,116			2,884	0	1,032	200	4,116
60mm Illum	275	0	140	0	415			275	0	140	0	415
60mm WP	292	8,047	85	578	9,002			292	8,047	85	578	9,002
81mm HE	1,976	0	2,415	1,046	5,437			4,504	0	2,415	1,046	7,965
81mm Illum	270	0	213	302	785			610	0	213	302	1,125
81mm WP	324	0	293	197	814			648	0	293	197	1,138
120mm HE	0	0	0	0	0			1,066	0	0	0	1,066
120mm Illum	0	0	0	0	0			216	0	0	0	216
120mm WP	0	0	0	0	0			317	0	0	0	317
Artillery Firing Points												
105mm HE	0	6,448	31	2,000	8,479			0	6,448	31	2,000	8,479
105mm Illum	0	105	0	62	167			0	105	0	62	167
105mm WP	0	34	0	0	34			0	34	0	0	34
155mm HE	2,686	900	2,696	215	6,497			2,686	900	2,696	215	6,497
155mm Illum	270	69	292	0	631			270	69	292	0	631

Table 6. Ammunition Usage by Live-Fire Range for Current Training, Transformed Training, and Net Difference (Rounds), Stryker Brigade Combat Team, Island of Hawaii, Hawaii.

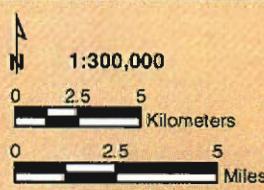
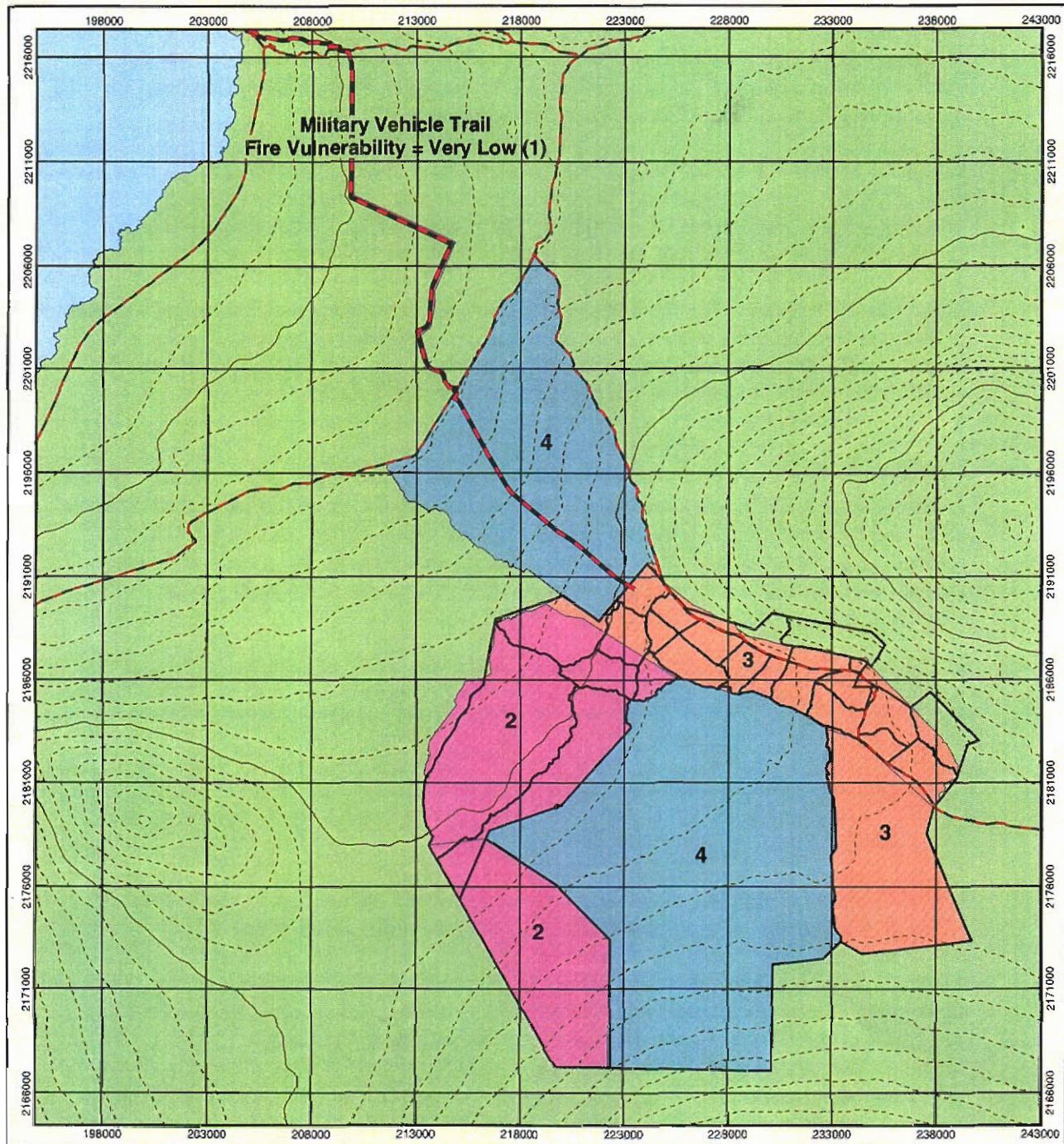
RANGE & Ammunition	Projected Un-Transformed (Current)						Projected Transformed						Net Difference	
	Other			Other			Other			Other				
	2 Legacy Brigades	25% IDL	USMC	25% IDL	USMC	Total	25% IDL	USMC	Total	25% IDL	USMC	Total		
155mm WP	124	30	113	0	267		124	30	113	0	267		0	
155mm Copperhead	2	12	0	0	14		2	12	0	0	14		0	
Maneuver Areas														
Pyro	5,259	0	0	0	5,259		9,094	0	0	0	9,094		3,834	
Pyro-Smoke	643	0	0	0	643		569	0	0	0	569		-74	
5.56mm Blank	179,556	0	0	0	179,556		438,024	0	0	0	438,024		258,468	
7.62mm Blank	17,762	0	0	0	17,762		61,306	0	0	0	61,306		43,544	
.50 Cal. Blank	1,530	0	0	0	1,530									

Source: John Gallup and Associates. Training Description. Version 5.3

This comparison of current and transformed ammunition usage on PTA is projected for FY 05 based on Draft TRAC (Standards in Training Commissions) information. Information for "Other 25ID", "USMC", and "Other" was compiled from 2001 RFMSS data and is used as a constant for both Un-Transformed and Transformed projections, except where use by these units is altered by changes due to range demolition/reconfiguration related to construction of new ranges (John Gallup and Associates product 10/16/02).

SBCT Training Fire Vulnerability
Stryker Brigade Combat Team -- Island of Hawaii

Figure 17



Data Source: Center for Environmental Management of Military Lands

Fire Risk

- Low (2)
- Moderate (3)
- High (4)

500' Contours

Index Contours

Preferred Military Vehicle Trail

Primary Roads

Legend

Training Areas